ONTARIO

Municipal/Industrial Strategy for Abatement (MISA)

MISA Advisory Committee

1st Annual Report

1987-1988

1st annual report : MISA advisory committee.

Province of Ontario
Ministry of the Environment
MISA
Municipal/Industrial Strategy for Abatement
Stopping Water Pollution at its Source

1st Annual Report
MISA ADVISORY COMMITTEE

Covering the period from April 1, 1987 to March 31, 1988 and the inaugural period of Committee operations from November 1986.

Permanent Members:
Mr. Jim MacLaren, Member and Chairman from November 5, 1987
Ms. Toby Vigod, Vice-Chairman
Dr. Monica Campbell, Member
Mr. Harvey Clare, Member
Dr. Doug Hallett, Former Chairman to October 23, 1987
Dr. Isobel Heathcote, Member
Dr. Paul Hebert, Member
Dr. Don Mackay, Member
Mr. Kai Millyard, Member

Staff Members:
Mr. Doug Vallery, Scientific and Technical Coordinator
Ms. Linda Eastcott, Technical Assistant

July 1988

ONTARIO MINISTRY OF THE ENVIRONMENT
MISA ADVISORY COMMITTEE

FIRST ANNUAL REPORT 1987-1988

Covering the fiscal year April 1, 1987 to March 31, 1988
and the inaugural period of Committee operations
from November 13, 1986

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MISA - MUNICIPAL-INDUSTRIAL STRATEGY FOR ABATEMENT
"STOPPING WATER POLLUTION AT ITS SOURCE"

1. INTRODUCTION

The MISA Advisory Committee was established by the Minister of the Environment in late 1986, primarily to provide independent expert advice on the content of draft regulations being developed under the MISA program of the Ontario Ministry of the Environment. While members of the committee are considered independent and represent only their individual expertise and experience, the operation of the committee serves to represent and protect the public interest by providing a third party opinion on the direction of water quality regulation in the Province of Ontario.

2. MANDATE OF THE MISA ADVISORY COMMITTEE

By Order in Council 2766/86 pursuant to clause 3(i) of the Environmental Protection Act, R.S.O. 1980, c. 141, the MISA ADVISORY COMMITTEE was struck to provide advice to the MINISTER OF THE ENVIRONMENT in accordance with the White Paper 'Municipal-Industrial Strategy for Abatement" released in June 1986 and more particularly:

(a) to review draft regulations relating to monitoring and effluent limits prepared by the sectoral technical committees;
(b) to liaise and work with the technical committees;
(c) to provide advice and recommendations to the Minister on the content of the regulations;
(d) to provide advice with respect to such other related matters as the Minister may prescribe.

The Committee was created solely to provide advice to the Minister upon request of the Minister; the Minister is not obligated to accept the Advisory Committee's advice and recommendations, but will take the Committee's advice into account when finalizing regulations. Subject to the EPA, and any Order-in-Council, the Ministry agrees to respect the independence that the Committee requires in order to carry out its advisory function. In accordance with Ontario government policy concerning the sunset review of advisory agencies, the existence of the committee shall terminate and the term of each member of the Committee shall expire on October 22, 1989, unless the agency is re-established following sunset review.

3. COMMITTEE MEMBERSHIP

The following members were appointed by Order in Council 2766/86, dated November 13, 1986, to the MISA Advisory Committee, pursuant to clause 3(i) of the Environmental Protection Act, for a term ending on the 22nd day of October, 1989:

Dr. Douglas Hallett of Acton, as Chairman	Ms. Toby Vigod of Toronto, as Vice-Chairman
Dr. Monica Campbell of Toronto	Mr. Harvey Clare of Toronto
Dr. Paul Hebert of Windsor	Mr. James MacLaren of Toronto
Dr. Don Mackay of Toronto; and	Mr. Kai Millyard of Ottawa.

As well, Doug Vallery was appointed on April 1, 1987, as Scientific and Technical Coordinator for the Committee, to provide staff support for the Committee's work. Linda Eastcott, a recent MASc Chemical Engineering graduate of the University of Toronto, was appointed Technical Assistant on contract in mid-October, 1987.

For business reasons, Dr. Douglas J. Hallett resigned as chairman and member of the Committee effective October 23, 1987. By Order-in-Council 2448/87, dated November 5, 1987, Mr. James MacLaren was appointed chairman of the Committee to replace Dr. Hallett. As well, By Order-in-Council 2629/87, Dr. Isobel Heathcote of the University of Toronto was appointed as a new committee member to fill the vacant position.

All members of the MISA Advisory Committee are compensated according to Schedule 1 of Ontario Management Board Directives 6-1 [May 1986] and are required to abide by Management Board Guidelines and Directives, including those related to conflict of interest.

A representative from each industrial sector, appointed by the Minister of the Environment through consultation with the sector, is to be a full member of the MAC when regulations pertaining to that sector are being reviewed. When matters pertaining to the municipal sectors are being reviewed, a representative of each of the Association of Municipalities of Ontario, and the Municipal Engineers Association, appointed by the Minister through appropriate consultation, will be members of the Committee. During this reporting period, those confirmed industrial representatives who have attended MAC meetings or who have been tentatively appointed to serve on the Committee are as follows:

- **Electric Power Generation represented by Ontario Hydro**: Mike Northfield
- **Iron & Steel Sector represented by the Canadian Steel Environmental Assoc. (CSEA)**: Al Schuldt
- **Metal Casting Sector represented by the Metal Casting Environmental Committee (MCEC)**: Ian Hennessy
- **Mining Sector represented by the Ontario Mining Association (OMA)**: Maxine Wiber
- **Municipal Sectors represented by the Assoc. of Municipalities of Ontario (AMO) and the Municipal Engineers Association (MEA)**:
  Her Worship Mayor Claudette Millar, City of Cambridge (AMO)
  Milt Sather, CAO, City of Guelph (MEA)
- **Organic and Inorganic Chem. Man. Sectors represented by the Canadian Chemical Producers' Association**: Bill Neff
- **Petroleum Refinery Sector represented by the Ontario Petroleum Assoc. (OPA)**: Ray Shaver (1987) and Bruce Orr (1988)
- **Pulp & Paper Sector represented by the Ontario Forest Industries Assoc. (OFIA)**: Bob Chambers

As well, Advisory Committee members are appointed as 'observers' to the Joint Technical Committees. The observers are responsible for keeping abreast of JTC business, and for acting as liaison between the JTCs and MAC. Due to the fact that generally MAC members have full-time careers elsewhere, their attendance at JTC meetings is optional, and they rely on the timely issuance of minutes and documentation to keep them up-to-date on JTC activity. The following is the proposed roster of MAC observers to the JTCs:

Petroleum Refinery Sector: Harvey Clare
Mining Sector: Harvey Clare
Iron & Steel Sector: Kai Millyard
Inorg. Chem. Man. Sector: Paul Hebert
Electric Power Generation: Monica Campbell
Organic Chem. Man. Sector: Don Mackay
Pulp & Paper Sector: Jim MacLaren
Metal Casting Sector: Isobel Heathcote
Municipal Sectors: Kai Millyard

Biographical sketches of all Permanent Members to the MISA Advisory Committee appear in Appendix A.

4. COMMITTEE OPERATIONS

The Committee is bound by its Memorandum of Understanding (MOU) which is in the process of finalization at the time of writing. As well, the Committee has prepared more detailed Operating Procedures, which are modified from time-to-time. The Committee and staff operate from premises provided by the Ministry at 112 St. Clair Avenue West, Suite 502, Toronto, Ontario M4V 1N3 (telephone 416-965-1400).

The Committee meets regularly on the second and fourth Fridays of each month, and may convene at other times depending on the workload. The Committee issues draft minutes to a small internal distribution within five days of each meeting; subsequently, the minutes are printed and distributed to a wider list of MISA participants approximately every quarter. During this reporting period, the Committee has met on twenty-eight occasions. In terms of workload planning, the Committee is dependent for the most part on the Ministry's adherance to the MISA Regulatory Development Schedule and to the timely provision of background information and documentation.

5 REFERRALS TO THE COMMITTEE

Referrals to the MISA Advisory Committee and Committee responses form the primary contribution to the MISA program. The Referrals were in the form of direct requests for advice and comment on specific MISA components or as Committee response to direct participation in the MISA process.

In early 1987, The Minister referred a brief to the MISA Advisory Committee on municipal sewer use control. The Committee responded in two letters which were prepared as components of the MISA Municipal program were developed. The Committee basically supported the need for a strong regulatory program.

With regard to the referral of regulations to the Committee, three regulations were referred for Committee review during the reporting period. These were the General Monitoring Regulation and draft monitoring regulations for the Petroleum Refining and Organic Chemical Manufacturers' Sectors.

The Committee also took the opportunity to provide general comment to the Ministry on the direction of the MISA program and on administrative matters. The process of referrals and specific documents are summarized and appear in Appendix B.

6. COMMITTEE MEETINGS

The MISA Advisory Committee has held twenty-eight meetings since its inception and during this reporting period. Minutes are available to MISA participants on request, and are routinely distributed to MOE Senior Management, MISA Managers and Sector representatives to MAC. Minutes for the period are provided in seven bound volumes, and generally include background documents which are pertinent to Committee discussions:

Vol I Meetings 1 to 4	- Committee Operations
Vol II Meetings 5 to 11	- Review of Petroleum Sector Draft Monitoring Regulation
Vol III Meeting 12	- Operating Procedures / Economic Information Needs
Vol IV Meeting 13 to 15	- Conceptual Regulation - Organic Chemical Man. (OCM)Sector; preliminary Water Quality Track proposal
Vol V Meeting 16 to 21	- Diverse Subjects
Vol VI Meetings 22 to 25	- Municipal Sewer Use Control; Draft OCM Sector Regulation
Vol VII Meetings 26 to 29	- Memorandum of Understanding; Effluent Monitoring Priority Pollutants List (EMPPL)/ Priority Substances Advisory Committee; General and Petroleum Sector Regulation

In addition to a specific meeting Agenda, the MISA Advisory Committee publishes a quarterly "Bring-Forward List" which acts as an agenda of continuing items and which briefly describes the nature and status of issues which have been brought to MAC's attention and on which MAC intends to act. As of March 31, 1988, major items on the "Bring-Forward List" are:

1. The Effluent Monitoring Priority Pollutants List (EMPPL) is a major cornerstone of the MISA program. While provided as background information to the Petroleum Refinery Sector Regulation, the EMPPL has not received a full review by the MISA Advisory Committee.. Originally, MAC deferred review until a sound Listing/Delisting (L/D) Process was proposed. In light of the fact that a Listing/Delisting process has not been finalized, MAC will proceed with a review of the EMPPL in 1988/89 fiscal year.
2. The Advisory Committee awaits further details on the concept and development of the MISA Water Quality Track. The Committee believes this to be a very significant aspect of the MISA program.
3. Regarding Municipal Sewer Use Control, the Ministry of the Environment will be publishing a Discussion Paper in the near future. The MISA Advisory Committee will be reviewing the Paper and providing comment during the public review period.
4. The St. Clair Loadings Matrix Project is a technical project undertaken by Committee staff. The project involves the development of a spread sheet format as the basis for estimating and aggregating net loadings of EMPPL and non-EMPPL compounds by discharger and discharge point to the St. Clair River. The loadings estimates will be based on pre-regulation monitoring data, and data from related studies such as the Upper Great Lakes Connecting Channel Study (UGLCCS) and the MISA Pilot Site Study in the area. The project will hopefully provide a geographical perspective on net loadings of contaminants to this most important water body. A report will be written describing the project objectives and methods, and highlighting observations and conclusions.
5. Follow-up Items as a result of discussions on the Petroleum Refinery Sector Regulation July 1987:
   - status of the Listing/Delisting Process as an essential component of MISA process
   - status of Analytical Methodology Development for selected EMPPL compounds
   - status of research and development on Toxicity Testing programs, especially on chronic toxicity, additional acute tests and flow-through testing.

7. BUDGETARY PERFORMANCE

The MISA Advisory Committee has operated within its budget of $380K during fiscal year 1987-1988 and has closed with a surplus of $54K following adjustments in Direct Operating Expenditures. The budget for fiscal 1988-1989 substantially duplicates the previous year's budget.. Detailed budgetary information is available at the MISA Advisory Committee Office.

8. COMMITTEE OUTLOOK 1988-1989

The MISA Advisory Committee looks forward to an active year with the tabling of the balance of sectoral monitoring regulations in 1988 and 1989. As well, the Advisory Committee looks forward to early participation with the MISA Office in the development of a workable and productive project management system to ensure the timely delivery of regulations. The receipt of expert advice on statistical aspects of monitoring will assist the committee in further review of MISA regulations. The continuation of the productive working relationship with all MISA participants is a prerequisite to the satisfactory fulfillment of the Committee's mandate.

APPENDICES:

A. Committee Permanent Membership - Biographical Notes and Pictures
B. Referrals to the Committee - Summary and Documentation

APPENDIX A

MISA ADVISORY COMMITTEE
PERMANENT MEMBERSHIP

Chairman - Jim MacLaren

Mr. MacLaren, formerly, President of the consulting firm James F. MacLaren Limited, now consults privately, specializing in environmental engineering and policy management advisory services. Mr. MacLaren is a Fellow of the Engineering Institute of Canada and of the Canadian Sociaety for Civil Engineers, a past president of the Association of Consulting Engineers of Canada, and recently one of the three Commissioners in the "Inquiry for the Canadian Government on Federal Water Policy".

Vice-Chairman - Toby Vigod

Ms. Vigod is Counsel with the Canadian Environmental Law Association. She represents clients on a variety of matters pertaining to environmental law. Her main areas of legal expertise are in the field of toxic chemical and pesticide regulation and legislation which controls hazardous waste and Great Lakes environmental quality. Ms. Vigod also lectures on environmental law at the Faculty of Law, Queen's University.

Member - Monica Campbell

Dr. Campbell is a graduate of the Toxicology Program at the University of Toronto. Her doctoral research entailed the development of biological markers of environmental contaminant exposure. Previously, she was a researcher with the Pollution Probe Foundation, where she specialized in drinking water quality and industrial waste reduction and recycling, on which she co-authored several publications. She is currently a Research Officer with the Environmental Health Office of the City of Toronto.

Member - Harvey Clare

Mr. Clare is a retired executive with Imperial Oil Limited. From 1969 to 1982 he was the Environmental Protection Coordinator for Imperial Oil; prior to that he held, among other positions, Manager for Planning and Investment Logistics, and Manager for the Refining Coordination Division. Mr. Clare is a past president and founder of the Petroleum Association for Conservation of the Canadian Environment (PACE). He is also a former treasurer of the Conservation Council of Ontario.

Member - Isobel Heathcote

Dr. Heathcote is currently Director of the Environmental Studies Program at Innis College and Dean of Women and Director of Residences at University College of the University of Toronto. She has been responsible for coordinating a large interdisciplinary staff in the identification of environmental impacts of water pollution in the Great Lakes and has considerable experience in water quality issues in general, private sector abatement efforts and the public regulatory framework. She is most familiar with the pulp and paper and mining industries and the effects of their effluents, as well as contaminant modelling.

Member - Paul Hebert

Dr. Hebert is a Professor of Biology and Acting Director of the Great Lakes Institute, University of Windsor. He specializes in population biology of aquatic organisms, particularly in response to toxic contamination. His latest research efforts have concentrated on contamination of the Huron-Erie Corridor and other Great Lakes locations and encompass a range of technical and policy aspects.

Member - Donald Mackay

Dr. Mackay is a Professor at the University of Toronto, cross-appointed to the departments of Chemical Engineering and the Institute for Environmental Studies. His research encompasses a range of environmental areas, namely the impact of oil spills, the dynamics of organic contaminants - particularly in the Great Lakes ecosystem, and partitioning and solubility studies. His modelling of environmental systems is of particular note with respect to aquatic-based pollution control methods.

Member - Kai Millyard

Mr. Millyard is the National Policy Director for Friends of the Earth and a private consultant. Over the last 6 years as a researcher and advocate for Pollution Probe, he has directed educational programs and influenced public policy on environmental issues ranging from waste management and energy conservation to water pollution control. Through membership in municipal, provincial, national and international boards and government committees, he is familiar with a wide variety of pollution control and regulatory programs.

Former Chairman - Douglas Hallett (resigned October 1987)

Dr. Hallett is an accomplished environmental biologist, biochemist and analytical chemist and is a recognized expert on the technical and regulatory aspects of pollution control in Canada. He is President of EcoLogic, a group of associated companies providing environmental consulting and analytical services, and developing hazardous waste management techniques and hardware. Dr. Hallett is retained as an expert on Great Lakes water quality issues, human exposure to PCBs and environmental risk assessment.

APPENDIX B

REFERRALS TO THE COMMITTEE
Summary and Documentation

Referrals to the MISA Advisory Committee and Committee responses are summarized and appear as follows:

B.1 REFERRALS regarding the MUNICIPAL SECTOR

Pollution Probe Brief to the Minister: "Plugging the 11,000 Loopholes in MISA"

- Brief from Pollution Probe dated January 12, 1987
- Referral Letter from the Minister to MAC dated January 16, 1987 (**Item B.1.1**)
- MAC response dated July 6, 1987 stating MAC appreciation for Ministry programs and support for principles advocated by Pollution Probe (**Item B.1.2**)
- MAC response dated January 11, 1988, providing advice on proceeding with Sewer Use Control program (**Item B.1.3**)

B.2 REFERRALS regarding the PETROLEUM REFINING SECTOR

B.2.1

MAC Response to the Legal Draft Effluent Monitoring Regulation (1987) for the Petroleum Refining Sector

- Preliminary Legal Draft furnished by Ministry dated April 10, 1987
- Preliminary Draft MAC report provided to Ministry April 28, 1987
- "Penultimate" Legal Draft furnished by Ministry May 6, 1987
- Draft MAC report provided May 14, 1987 to Ministry Management Committee
- Final MAC report provided June 4, 1987 to Ministry Management Committee and formally under covering letter to the Minister on June 17, 1987 (**Item B.2.1**)
- Final MAC report (and Ministry response) published with Public Package July 30, 1987

B.2.2.

MAC Response to the Public Release of the Draft Effluent Monitoring Regulation for the Petroleum Refining Sector

- Copies of Public Responses were provided under memo from the MISA Office on October 2, 1987 with request for comment (**Item B.2.2.1**).
- Without a specific Ministry response to public comment on which to base a review, the Committee took the opportunity to assess its involvement in the entire MISA process and in Joint Technical Committee deliberations. The Committee discussed observations with Ministry staff in October 1987, and provided observations and advice to the Minister by letter of November 30, in the form of general advice on the regulation development process (**Item B.2.2.2**).
- Response to the advice was indirectly provided in the appearance in March 1988 of the Draft General Monitoring Regulation and the Monitoring Regulation for the Petroleum Refinery Sector. The Minister's official response appears in a letter dated May 26, 1988 (**Item B.2.2.3**).

B.2.3

Legal Draft General Effluent Monitoring Regulation & Effluent Monitoring Regulation for the Petroleum Refining Sector

- "Penultimate" legal draft of both regulations furnished with background documents under letter from the Minister of March 18, 1988 (**Item B.2.3.1**); discussed at MAC Meeting 28 on March 25 with full attendance of industrial sector representatives
- Draft MAC response letter provided March 28; finalized April 12, 1988 (**Item B.2.3.2**); MAC declined to comment on the background documents due to the short review period imposed.

B.3 REFERRALS regarding the ORGANIC CHEMICAL MANUFACTURERS' SECTOR

B.3.1

Conceptual Draft Organic Chemical Sector Regulation

- Conceptual Draft furnished July 24, 1987; detailed discussion occurred August 8 meeting and reported in Committee minutes
- Preliminary MAC response provided to Ministry and Sector JTC August 20, 1987
- MAC response finalized at September 4 meeting, described in Minutes and discussed in Memorandum to Ministry staff on September 17, 1987 (**Item B.3.1**)

B.3.2

Legal Draft Effluent Monitoring Regulation for the Organic Chemical Manufacturers' Sector

- Legal Draft 6 was provided and presented at meeting on December 11, 1987
- Full discussion was held January 8 and 22, 1988 and reported in Meeting Minutes; main concerns centred on optimization of monitoring requirements and the extent of characterization.
- A Sub-group meeting was held on January 25 , 1988 at which a tentative agreement was reached on minimum requirement for characterization within the regulation.

B.4 CORRESPONDENCE regarding MISA ADMINISTRATIVE AND PROGRAM MATTERS

- The MISA Advisory Committee wrote the Assistant Deputy Minister, Environmental Services Division on November 30, 1987 (**Item B.4.1**), and commended the Ministry on the advancement of the MISA program and in the cooperative provision of services and documentation to the committee.2 The Committee made a number of suggestions regarding improved project management and increased priority on public communications for MISA activity. A response from the Assistant Deputy Minister was received January 11, 1988 (**Item B.4.2**)

APPENDIX B.1

MISA ADVISORY COMMITTEE 1987-1988

REFERRALS regarding the

MUNICIPAL SECTOR

Ontario

ITEM B 1.1

Office of the
ister

Ministry
of the
Environment

135 St Clair Avenue West
Toronto, Ontario
M4V 1P5
416-965-1611

January 16th. 1987

Dr. Douglas Hallett
Chairman
MISA Advisory Committee
R.R. 2
ACTON
Ontario
L7J 2L8.

Dear Dr. Hallett:

I am referring for the Committee's review the document, "Plugging the 11,000 Loopholes in MISA". Presented to the Ministry by Pollution Probe January 12, 1987, it calls on the Ministry to modify its approach to municipal sector toxic waste discharges to sewer systems.

I ask that your committee review the matter and report back to me by April 30, 1987.

Yours sincerely,

Jim Bradley
Minister

/mr.

c.c. Mr. R.M. McLeod

probe
Pollution Probe Ecology House Probe Post

The Pollution Probe Foundation
12 Madison Avenue
Toronto, Ontario
M5R 2S1
(416) 926-1907

January 12, 1987

The Hon James Bradley
Minister of the Environment
135 St Clair Ave W
Toronto, Ontario
M4V 1P5

RE: PLUGGING THE 11,000
LOOPHOLES IN MISA

Dear Mr Bradley,

Pollution Probe has conducted a further review of the MISA plan, and your Ministry's actions on MISA in recent months. We are still awaiting the government's response to all of the public comments made on the White Paper. But in the interim, it remains clear that, as we stated in July, changes must be made in the MISA plan to allow the province to set standards for the industries dumping wastes into sewer systems. In Pollution Probe's view, the MISA plan, your flagship environmental protection reform, will be a failure if there is not a dramatic effort to improve the sewer-control side of the plan. As it now stands, the unchanged MISA plan exempts 97.5% of the water polluters in Ontario from the new regulations. This approach cannot possibly hope to cope with the problem.

It should be remembered that Pollution Probe is not the only voice saying that the sewer use program in MISA is underdeveloped and that "pretreatment" limits should be set by the province. Other agencies including the US EPA, the OWMC, the Association of Municipalities of Ontario, Tricil, the Canadian Steel Environmental Association, the Cities of Barrie and Windsor and the Toronto Health Department have said the same thing.

This brief will review major problems with the current approach, and make recommendations for a three point plan for upgrading MISA to be as comprehensive as possible. The strength of MISA is its principles; the problem is that, so far, they are not applied equally to all water polluters.

Sincerely,

Kai Millyard
Researcher

probe
Pollution Probe Ecology House Probe Post

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(416) 926-1907

PLUGGING THE 11,000 LOOPHOLES IN MISA

A brief

for the Hon James Bradley

Minister of the Environment

January 12, 1987

(BRIEF ON FILE)

Ministry of the Environment
Ministère de l'Environnement
Ontario

ITEM B 1.2 COPY

135 St. Clair Avenue West
Suite 100
Toronto, Ontario
M4V 1P5

135, avenue St. Clair ouest
Bureau 100
Toronto (Ontario)
M4V 1P5

965-1400

July 6, 1987

The Honourable Jim Bradley
Minister of the Environment

Dear Sir:

With reference to your request of January 16th, 1987, to the MISA Advisory Committee, we have reviewed the brief of Pollution Probe to your office entitled "Plugging the 11,000 Loopholes in MISA" and dated January 12th, 1987.

This brief raised concerns that your Government in implementing the MISA program, would not effectively control industrial discharges to municipal sewerage systems. As a result, toxic and hazardous wastes from these sources would continue to reach our water, air and land resources as diluted loadings of municipal treatment effluents and related sludges.

We have reviewed this issue and do not believe that it is your intention to overlook control of toxic and hazardous waste discharges to municipal sewerage systems. We are aware that the Ministry has currently underway the development of a "Sewer Use Control Program" with five significant components under MISA Working Group 3. The initial component entitled "Screening Sewer Use Control Alternatives" is apparently about to be completed.

Also, an MOE/FED/MEA Technical Committee will be monitoring this program along with the 40 sewage works pilot project and recommending a procedure that will eventually reach the Advisory Committee for review.

However, the committee has concerns about the emphasis indicated in these studies. These concerns are reflected in the principles advocated by the Pollution Probe brief, that:

.../2

A. A mandatory, uniform sewer use by-law be developed to make municipalities responsible for all system discharges.

B. Within-system industrial dischargers be identified, classified and regulated on a comparable basis to direct dischargers with pretreatment standards established as required to meet the regulations.

C. A system of user pay be implemented with funds specifically reserved for the purpose, but with initial provincial subsidy.

The MISA Advisory Committee supports these principles and recommends their adoption. We look forward to receiving the above-mentioned studies as they become available and will be providing you with comments at that time.

Yours very truly,

Doug Hallett
Chairman
MISA Advisory Committee

DV/mmn
MISAPROJ/ 00027

Ontario
Ministry of the Environment
Ministère de l'Environnement

ITEM B 1.3

COPY

135 St. Clair Avenue West
Suite 100
Toronto, Ontario
M4V 1P5

135, avenue St. Clair ouest
Bureau 100
Toronto (Ontario)
M4V 1P5

January 11, 1988

The Honourable Jim Bradley
Minister of the Environment
15th Floor, 135 St. Clair Avenue West
Toronto, Ontario M4V 1P5

Dear Mr. Minister:

Further to our letter to you of July 6 last on the control of discharges to municipal sewer systems, the MISA Advisory Committee has reviewed the two draft reports recently completed for the Ministry on this subject, namely *The Evaluation of Sewer Use Control Options* - Phase I and II, November 1987. We noted in our letter that we would comment on these two documents when available. To assist us in doing so, we not only studied the reports, but we received a presentation from the contractor and discussed the development of the program for several hours on December 11th with Messrs. Seto and Leclair of your staff. This cooperation was most appreciated.

Now that these reports have presented an exhaustive study of options of various sewer use control programs, it is our opinion that the Ministry program should proceed as follows:

1. The initial development and enforcement of a general pretreatment regulation to require municipalities to be responsible for all system discharges and to ensure that all such discharges meet certain minimum standards (the proposed model by-law is representative of the first stage in the development of this regulation).

2. The undertaking of a 'user survey' to determine the type, size and character of all discharges of a non-residential nature into municipal sewerage systems in Ontario.

3. From that survey, the staged development and implementation of categorical BATEA standards which would specify the quantities or concentrations of pollutants based on BAT which may be discharged or introduced into a municipal sewerage system by existing or new non-residential users.

.../ 2

These standards would be in addition to the provisions of the general pretreatment regulation.

The analysis of the results of the user survey would establish the list of industrial sectors on a priority basis and the order for establishment of technical committees to develop BATEA regulations.

4. The prompt establishment of initial BAT regulations for municipal waste water treatment plants to achieve performance equivalent to secondary treatment with phosphorus removal. Additional treatment requirements would be developed only after full implementation of the industrial pretreatment program.

The foregoing process would follow current procedures of provincial-municipal JTC committee development with public comment sought at all significant stages. We understand that this process substantially supports the current thinking of your staff in the municipal program.

We doubt that the cost of the intended monitoring regulation for municipal waste water plant influents and effluents in both time and money is justified. The 40-plant study has clearly identified the scope of the problem and we should get on with BATEA, thereby speeding up the process and conserving resources.

We thank you for the opportunity to comment on this challenging issue and look forward to reviewing the program in its continuing development.

Yours very truly,

original signed by

James MacLaren, Chairman
for the MISA Advisory Committee

c.c. Deputy Minister
Dr. David Balsillie
Jim Bishop
Nars Borodczak
Peter Seto
MAC Distribution List

APPENDIX B.2

MISA ADVISORY COMMITTEE 1987-1988

REFERRALS regarding the

PETROLEUM REFINING SECTOR

Ontario

Ministry of the Environment
Ministère de l'Environnement

135 St. Clair Avenue West
Suite 100
Toronto, Ontario
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135, avenue St. Clair ouest
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June 17, 1987

The Honourable Jim Bradley
Minister of the Environment
135 St. Clair Avenue West
Toronto, Ontario
M4V 1P5

Dear Mr. Bradley:

I am pleased to provide you with the Report of the MISA Advisory Committee on the draft MISA Petroleum Refinery Effluent Monitoring Regulation.

The Committee members feel strongly that the regulation-specific recommendations should be incorporated into the "public draft" of the Regulation.

We assume that on the basis of your letter of January 1987, this Report will be published along with the draft regulation during the public review period.

The Committee would be pleased to discuss with you and your staff in the near future, this Report and our impressions of the process leading to the tabling of this first draft MISA regulation.

Yours sincerely,

Douglas J. Hallett
Chairman
MISA Advisory Committee

ONTARIO MINISTRY OF THE ENVIRONMENT
MUNICIPAL-INDUSTRIAL STRATEGY FOR ABATEMENT

MISA ADVISORY COMMITTEE

REPORT regarding the

EFFLUENT MONITORING REGULATION FOR THE PETROLEUM REFINING SECTOR

June 4, 1987

Doug Hallett
Chairman

Toby Vigod
Vice-Chairman

MISA ADVISORY COMMITTEE REPORT regarding the EFFLUENT MONITORING REGULATION FOR THE PETROLEUM REFINING SECTOR

1. INTRODUCTION

The Honourable Jim Bradley, Minister of the Environment, has established as a major priority, the goal of the virtual elimination of persistent toxic contaminants (in addition to conventional pollutants) in industrial and municipal discharges into Ontario's waterways. The Municipal-Industrial Strategy for Abatement (MISA) is a program which has been developed to achieve this goal of systematically reducing the concentration of persistent toxic chemicals discharged by point sources.

MISA is to impose abatement requirements on eight major industrial sectors, and on municipal dischargers. Regulated controls under the program are to be established by effluent monitoring regulations, and subsequently by effluent limits regulations under the Environmental Protection Act.

The purpose of the effluent monitoring regulations is to develop, through a comprehensive monitoring program, a data base on effluent water quality, emphasizing toxic contaminants. The monitoring is "to reflect all conditions of operation, including normal and upset conditions, within a standardized framework of sampling and analytical quality assurance, quality control and audit". The data base will be used to evaluate current effluent water quality, and to determine the level of further treatment required to meet specific performance standards and water quality requirements. Effluent limits regulations will supercede the monitoring regulation and will include ongoing or amended monitoring requirements.

The MISA Advisory Committee (MAC) was established in late 1986 as a group of independent experts providing the MISA process and the Minister of the Environment with a "third party" opinion, emphasizing environmental protection, on the draft regulations developed (see Appendix A - Committee Terms of Reference/Membership). The committee's expertise covers a broad spectrum within the field of environmental science; biology, chemistry, toxicology, civil and chemical engineering, economics, environmental policy and law. Furthermore, when the regulation pertaining to a specific sector is under review by the MISA Advisory Committee, a representative from that sector attends as a MAC member.

The Petroleum Refinery Effluent Monitoring Regulation was developed by the Ministry of the Environment staff in consultation with the Joint Industry/Federal/Provincial Technical Committee and draft regulations of November 1986 and January, March and May 1987 were provided to MAC for review.

Past work has shown that toxic substance loadings in the Great Lakes arise from long range transport as well as from point and diffuse sources. This current MISA draft regulation aims to quantify the loading of toxic chemicals from petroleum refinery point discharges to receiving waters. The regulation should result in the gathering of data that, when supplemented with additional information will provide the basis for prescribing specific effluent limits to control the quality of refinery discharges.

The objective of MAC's review was to determine whether the draft regulation will provide enough information to quantify the loading of toxic chemicals in petroleum refinery discharges, and whether this newly developed data base will be of sufficient scope and sensitivity to permit credible assessments of toxic chemical loadings and adverse environmental impact.

2. ADVICE TO THE MINISTER

The MISA Advisory Committee regards this draft regulation as a major step forward in toxic chemical control in Ontario. However, certain improvements in the content of the regulation are necessary for inclusion prior to its promulgation to address the deficiencies discussed below. The MISA Advisory Committee has also proposed program-specific improvements to the MISA programs which support the regulatory process.

3. DEFICIENCIES IN THE DRAFT REGULATION

Deficiencies and recommendations are highlighted, since this is a critical review, intended for constructive improvement of the document. The order of discussion does not imply relative importance to the items discussed; but, rather, follows the content sequence of the draft regulation.

Explanatory Notes

The draft Petroleum Effluent Monitoring Regulation is preceded by "Explanatory Notes". These notes do not provide an adequate explanation of how and why the regulation was developed, what options were considered, how selection was accomplished, and how MISA goals will be accomplished. **MAC recommends the re-writing of the explanatory notes, or the inclusion of additional background material to address these concerns.**

A sound explanation is necessary for legislators, for industry and for the public - for all MISA participants to understand fully the new regulatory direction. The complete document would include referencing the scientific studies (eg. PACE) which were employed, as well as the draft Ontario Effluent Monitoring Priority Pollutants List (EMPPL). It is understood that the draft EMPPL will be released simultaneously as a supporting document to the regulation, along with several other studies. MAC has not reviewed the draft EMPPL document in detail, and is not in a position to endorse its content.

Specifically, in the Explanatory Notes, MAC suggests the rewording of paragraph 6 on page 1, to become "Secondary biological treatment, and oil removal facilities have been installed, bringing the refineries to a generally high level of effluent water treatment". Also in the continuation onto page 2, the sentence "There is no implication that the refineries cause major environmental problems" should be removed as being prejudicial to the results of the monitoring program.

Characterization

MAC is concerned by the limitations of the open characterization proposed in the audit program to be carried out by the Ministry. The assigned detection limit of 50 ppb could preclude the identification of significant loadings of persistent toxic chemicals. **MAC recommends that these limits be lowered to a compound-specific level, and data should be reported for each compound down to the 1 to 20 ppb range. Method Detection Limits (MDL's) and variability of test results should be reported.**

MAC also recommends that alkylated polyaromatic hydrocarbons (PAH), mercaptans, thiophenes, ketones and alkylated phenolics, which were identified in the PACE studies, be assessed for inclusion in the EMPPL and, subject to meeting appropriate criteria, be included in the characterization list.

Routine Monitoring

It is MAC's belief that all chemical monitoring under the regulations should be directed to a specific understanding of the inter-relationships between detection levels, variability of test results, effluent water flow and the calculation of loadings and chronic toxic effects. It is therefore important to develop the analytical methods which will permit the detection and quantification of

particular chemicals, and which will permit the calculation of loadings that produce serious environmental impacts. For the persistent toxic chemicals, methods to identify concentrations in the 1 ppb range may be necessary for the calculation of loadings which are significant to receiving ecosystems.

The MISA Advisory Committee is concerned with the quarterly monitoring program, as this is the component which provides the basis for the calculation of loadings. Loading calculations are presently the only measure indicating exposure to persistent toxic chemicals. Concerns relate to sampling and analytical methodologies, specifically levels of detection. MAC contends that at effluent water flow rates from some refineries, the 10 ppb method detection level will fail to reveal significant loadings of persistent toxic chemicals.

MAC recommends the development of a data base for persistent toxic compounds which will enable the measurement of loadings of toxics down to the 10 to 100 kg/year level. The calculation of such loadings will only be possible if detection levels by validated methods are available in the near term down to 1 ppb or the MDL level. Therefore, for this regulation MAC recommends **that data for all persistent toxic compounds be reported down to the 1 ppb level or the Method Detection Limit achievable for each specific compound.** Also each laboratory should report the MDL and the variability for each parameter. The Ministry should determine MDL's using spiked refinery effluents. Inter-laboratory variability also needs to be determined. All this data is required to ensure proper interpretation of chemical loading data at the end of the MISA phase 1 monitoring program.

In addition, the Ministry of the Environment should undertake a research program to validate more sensitive analytical methods for specific groups of priority toxic compounds, over the next twelve months.

MAC is concerned that certain groups of persistent organic compounds, detected and reported in PACE studies (alkylated polyaromatic hydrocarbons including methylated groups, mercaptans, thiophenes, ketones and alkylated phenolics) are not adequately represented in the monitoring schedules or the EMPPL. Therefore, **MAC recommends that these compounds should be assessed by June 1988 within the EMPPL process,** and priority compounds with confirmed or validated protocols should, within one year of the filing of the regulation, be reported quarterly at a detection limit in the range of 1 part per billion.

Listing/Delisting Mechanism

The MISA Advisory Committee recognises the paramount importance of developing a "Listing/Delisting Mechanism" for the entire MISA process. It is essential that after 12 months of intensive monitoring, the data be assessed in order to:

1. eliminate, add or reschedule certain parameters in the interest of scientific economy and to ensure the availability of sufficient data at needed levels of detection and frequency of sampling for the next phase of the MISA program, ie. development of an effluent limits regulation.

2. determine the need for the development or validation of analytical methods;

3. identify any toxic chemicals that may require more intensive monitoring scrutiny; and

4. estimate chemical loadings to the environment and the confidence limits associated with these estimates.

For this reason, **MAC recommends that a Listing/Delisting Development Task Group** consisting of technical representatives from the MOE, two or more industry sectors and the MAC **be struck immediately to develop a Listing/Delisting Mechanism within the next six months.** Each MISA sector will ultimately require a standing listing/delisting committee to revise through negotiations, that specific sector's monitoring/abatement program.

Acute Toxicity Testing

Toxicity tests, both acute and chronic, represent a second means of detecting the presence and effects of deleterious compounds. Past experience (EPA documentation) has shown the merit of this approach and there is an increasing movement towards comprehensive toxicity assessment programs (eg. Michigan).

MAC recommends that the rainbow trout testing continue, with the immediate addition of Daphnia spp, testing, which is used in industrial and municipal effluent testing on a site-specific basis throughout the United States and is available for use in Canada to pre-test pesticides. **Daphnia spp,** is recommended as a minimum to allow testing of effluents on a second native biological species which is more sensitive than rainbow trout to many pollutants.

In addition, **MAC recommends that protocols for flow-through testing using various organisms such as rainbow trout and Daphnia spp, be validated within a research program and implemented as soon as possible within the regulation process.** The testing requirements should be applied equally to all sectors. Flow-through testing is recommended in addition to static testing because it provides for the integration of exposure to chemicals in effluents over long time periods, which is the concern of the MISA initiative. As well, static tests do not provide a basis for the assessment of volatile compounds.

Chronic Toxicity Testing

Existing legislation addresses the control of conventional pollutants, and acute toxicity. The MISA regulations attempt to go beyond this to assess loadings and chronic toxicity. Chronic toxicity studies aim to assess the biological effects of exposure to compounds at low concentrations over extended periods of time. Lakewide ecological effects can be caused by the aggregated loading of pollutants which in effluents are perceived to appear in minute quantities, particularly in comparison with the higher concentrations which may cause acute effects.

The only method now available for the assessment of chronic toxicity is mathematical extrapolation from the results of acute toxicity studies. Recognizing both the importance of chronic toxicity testing, and the lack of validated chronic test methods, **MAC recommends that the Ministry research and develop valid chronic tests over the next two-year period. Validated tests should then be incorporated in subsequent monitoring and limits regulations.**

Spills

It is understood that spills may contribute significant chemical loadings relative to continuous discharges. Current regulations require the reporting of spills to the Ministry. **These reports should be provided routinely by the Ministry and in satisfactory detail within the MISA program to provide useful information for the calculation of chemical loadings.**

4. REGULATION-SPECIFIC RECOMMENDATIONS

4.1 Rationale

That the Explanatory Notes should be re-written, or a supplementary document should be prepared to become a more comprehensive "rationale" for the regulation and that the regulatory framework should be described, especially in the context of Ontario and interjurisdictional requirements under the Great Lakes Water Quality Agreement, and in regard to the commitment to the elimination of persistent toxic discharges.

4.2 Routine Monitoring

That data for all persistent toxic compounds be reported down to the 1 ppb level or the Method Detection Limit achievable for each specific compound. Also each laboratory should report the MDL and variability for each parameter. Interlaboratory variability should then be determined.

4.3 Acute Toxicity Testing

That the acute, rainbow trout toxicity testing program be maintained, with the addition to the monitoring regulation requirements of **Daphnia spp** testing, using validated protocols, for interpretation of results and determinations of test variability to be developed and/or confirmed by the Ministry over the next six months, prior to enforcement under the regulation, and equally and sequentially applied to all sector regulations.

4.4 Schedules

That the four schedules accompanying the draft regulation should appear in a form consistent with the draft Ontario Effluent Monitoring Priority Pollutants List (EMPPL), and that full references and legends be provided for all columns and headings. The derivation of the regulation schedules from the EMPPL should be fully explained.

5. PROGRAM-SPECIFIC RECOMMENDATIONS

5.1 Chemical Monitoring

That the Ministry of the Environment should undertake a research program to validate more sensitive analytical methods for specific groups of priority toxic compounds, over a one year period.

That the groups of persistent organic compounds, detected and reported in PACE studies (alkylated polyaromatic hydrocarbons (including methylated groups), mercaptans, thiophenes, ketones and alkylated phenolics) be assessed in the EMPPL process within one year, and priority compounds with confirmed or validated protocols should, within one year of the filing of the regulation, be reported quarterly at a detection limit in a range close to 1 part per billion, and be subject to listing/delisting and inclusion in the characterization list.

5.2 Characterization

That for the open characterization program, the specified limit of detection of 50 ppb be lowered to a compound-specific level, and data should be reported for each compound down to the '1 to 20 ppb' range, along with the MDL and test results variability data.

5.3 Listing/Delisting Mechanism

That a Listing/Delisting Development Task Group consisting of technical representatives from the MOE, two or more industry sectors and the MAC be struck immediately to develop a Listing/Delisting Mechanism within the next six months.

5.4 Acute Toxicity Testing

That the Ministry expand acute toxicity testing programs to include validated tests for a broader range of biota beyond **Daphnia spp.** Validated tests should be developed for possible inclusion in subsequent monitoring and effluent limits regulations, to be applied to all sectors equally and sequentially.

That protocols for flow-through testing using various organisms such as rainbow trout and **Daphnia spp** should be validated under a research program, with regulatory requirements to be applied equally and sequentially in subsequent regulations.

5.5 Chronic Toxicity Testing

Recognizing the importance of chronic toxicity testing, and the lack of validated tests, **that the Ministry research and develop valid chronic tests over the next two-year period.** Validated tests should then be incorporated in subsequent monitoring and limits regulations or control programs. Progress on the development of validated programs should be reviewed and reported on an annual basis.

5.6 Spills

That Ministry procedures under the MISA program be developed for the internal transfer and assessment of spill information currently being obtained by the MOE under existing legislation.

Submitted, June 4, 1987

MISA ADVISORY COMMITTEE

Doug Hallett, Chairman

Toby Vigod, Vice Chairman

Monica Campbell, Member

Harvey Clare, Member

Paul Hebert, Member

Don MacKay, Member

James MacLaren, Member

Kai Millyard, Member

Ray Shaver, Member representing the Petroleum Sector

RESPONSES TO THE MISA ADVISORY COMMITTEE RECOMMENDATIONS ON THE DRAFT REGULATION

Throughout the Regulation Development Process, the MISA Advisory Committee (MAC) has reviewed selected drafts of the Regulation and provided comments to the Joint Industry/ Government Technical Committee for the Petroleum Refining Sector (JTC). Many of these comments have been accepted and incorporated into successive versions of the Draft Regulation package. The MAC, after reviewing the penultimate draft, had submitted its final report which is available for public review.

A synopsis of major recommendations from MAC and the corresponding Joint Technical Committee responses is provided herein. Further details are contained in the MAC's final report and in the "Explanatory Notes" of the regulation package.

A. REGULATION-SPECIFIC RECOMMENDATIONS

A.1 Rationale

MAC's Recommendation

That the "Explanatory Notes" should be re-written, or a supplementary document should be prepared to become a more comprehensive "rationale" for the regulation and that the regulatory framework should be described, especially in the context of Ontario and interjurisdictional requirements under the Great Lakes Water Quality Agreement, and in regard to the commitment to the elimination of persistent toxic discharges.

MOE/JTC Response

"Explanatory Notes" are intended for elaborating technical details in sampling and analytical procedures, and data reporting requirements in the regulation, and should stay in its present form. However, during the successive revisions of the "Explanatory Notes", substantial additions have been made relating to rationale.

The very sizeable amount of information and data collected, compiled, analyzed, and reported upon (in the form of Committee minutes, working documents, discussion papers, reports and reference documents) will be made available for public review. These documents contain the "rationale" upon which the regulation requirements have been derived.

To further address MAC's concern, however, the Ministry has provided a layman's overview to explain regulation requirements to the public, including a prescriptive to put the regulatory framework in a context of Ontario's commitment under the Great Lakes Water Quality Agreement.

A.2 Routine Monitoring

MAC's Recommendation

That data for all persistent toxic compounds be reported down to the 1 ppb level or the Method Detection Limit (MDL) achievable for each specific compound. Also each laboratory should report the MDL and variability for each parameter. Interlaboratory variability should then be determined.

MOE/JTC Response

Agree with MAC's recommendation, and will work with private laboratories on this task. Compound specific MDLs will be determined for the Volatiles and Extractables, Base neutral and Acid (Phenolics) using industry and Ministry generated data through the procedure outlined in the USEPA Federal Register, CFR 40, October 26, 1984, Appendix B. These MDLs will replace the interim values, listed in Schedule 3, within 5 months of the date of promulgation of the Regulation (i.e., one month before the Regulation takes effect). MDLs currently specified in the regulation for the remaining organic chemicals range between 0.3 nanograms per litre (ppt) and 100 nanograms per litre (ppt).

A.3 Acute Toxicity Testing

MAC'S Recommendation

That the acute, static, rainbow trout toxicity testing program be maintained, with the immediate addition to the monitoring regulation requirements of Daphnia spp. testing, using validated protocols and methodology for interpretation of results (addressing test variability) to be developed and/or confirmed by the Ministry over the next six months, prior to enforcement under the regulation, and equally and sequentially applied to all sector regulations.

MOE/JTC Response

Agree with MAC's recommendation in principle. Legal counsel advises that, in any case, an amending regulation is required to bring new test protocols/methology into effect. The Ministry will work with industry and the Federal Government to develop the test protocol for Daphnia spp. within 3-4 months. Validation of a protocol would normally include peer review and "round-robin" testing involving labs and agencies. The completion of such a test cycle may require an additional 6-8 months. Methodology for interpretation of test results will also be developed during the same period.

It is, therefore, logical to forecast that the Daphnia testing requirement and the validated protocols will be added to the current regulation (through amendment) over the next 9-12 months.

A.4 Schedules

MAC's Recommendation

That the four schedules accompanying the draft regulation should appear in a form consistent with the draft Ontario Effluent Monitoring Priority Pollutants List (EMPPL), and that full references and legends are provided for all columns and headings. The derivation of the regulation schedules from the EMPPL should be fully explained.

MOE/JTC Response

The four schedules accompanying the draft Regulation have now been consolidated into three. These schedules should stay in their present form because they are clear, precise and in legal format. In addition, the parameters in the schedules are categorized into standard test groups which are convenient for sampling and lab analysis.

To address MAC's concerns, a table will be included in the "Explanatory Notes" to cross-reference the chemicals in the schedule with the EMPPL. The "rationale" for the derivation of regulation schedules from EMPPL will be briefly explained.

B. PROGRAM-SPECIFIC RECOMMENDATIONS

B.1 Chemical Monitoring

MAC's Recommendation

That the Ministry of the Environment should undertake a research program to validate more sensitive analytical methods for specific groups of priority toxic compounds, over a one year period.

That the groups of persistent organic compounds, detected and reported in PACE studies alkylated polyaromatic hydrocarbons (including methylated groups), mercaptans, thiophenes, ketones and alkylated phenolics be assessed in the EMPPL process within one year, and priority compounds with confirmed or validated protocols should, within one year of the filing of the regulation, be reported quarterly at a detection limit in a range close to 1 part per billion, and be subject to listing/ delisting and inclusion in the characterization list.

MOE/JTC Response

Agree with MAC's recommendation. The Ministry will work with industries to confirm the presence of these and any additional compounds, assess them in the EMPPL process and develop protocols on a priority basis for their analysis with MDLs as close to 1 ppb as possible. The additional EMPPL chemicals, with proven routine analytical protocols developed, will then be added to the regulation at the same time as the listing/delisting mechanism.

B.2 Effluent Characterization

MAC'S Recommendation

That for the open characterization program, the specified limit of detection of 50 ppb be lowered to a compound-specific level, and data should be reported for each compound down to the "1 to 20 ppb" range, along with Method Detection Limit (MDL) and test results variability data.

MOE Response

Agree with MAC's recommendation. The Ministry, in its open-end effluent characterization program, will identify and quantify all compounds present in the effluent at state-of-the-art detectable concentrations as compared to an internal standard (i.e., as close to 1 ppb as possible, depending upon the specific analyte and the sample matrix).

B.3 Listing/Delisting Mechanism

MAC's Recommendation

MAC recommends that a Listing/Delisting Development Task Group consisting of technical representatives from the MOE, two or more industry sectors and the MAC be struck immediately to develop a Listing/Delisting Mechanism within the next six months.

MOE/JTC Response

Agree with MAC's recommendation on the immediate formation of a Listing/Delisting Development Task Group. However, Task Groups should be formed on a single sector basis with MAC's participation. The first Task Group (Petroleum Refining Sector) is scheduled to start working in July of this year.

Based on past experience, formation and operation of a committee involving more than one sector will greatly retard the development process due to the technical differences between the individual sectors, and the different regulation timetables.

The Listing/Delisting Mechanism is being developed by the Petroleum Refining Sector Technical Committee. The Mechanism will then establish common principles to be applied sector to sector in order to develop a generic listing/delisting mechanism.

The Mechanism will be developed as soon as possible but no later than 1 year after the promulgation of this regulation. It can be introduced either through amendment to the current Monitoring Regulation or through specification in the subsequent Effluent Limits Regulation.

The Mechanism will take effect only after the monitoring requirements under the Regulation have been completed (i.e. after an equivalent of one year of data have been gathered).

B.4 Acute Toxicity Testing

MAC's Recommendation

That the Ministry expand acute toxicity testing programs to include validated tests for a broader range of biota beyond Daphnia spp. Validated tests should be developed for possible inclusion in subsequent monitoring and effluent limits regulations, to be applied to all sectors equally and sequentially.

That protocols for flow-through testing using various organisms such as rainbow trout and Daphnia spp. should be validated under a research program, with regulatory requirements to be applied equally and sequentially in subsequent regulations.

MOE Response

Agree with MAC's recommendation in principle. The Ministry will accelerate development of test protocols for species other than trout and Daphnia spp., as well as for flow-through testing.

Sound, validated and cost-effective test protocols will be included into subsequent regulations.

B.5 Chronic Toxicity Testing

MAC's Recommendation

Recognizing the importance of chronic toxicity testing, and the lack of validated tests, MAC recommends that the Ministry research the development of valid chronic tests over the next two-year period. Validated tests could then be incorporated in subsequent monitoring and limits regulations or control programs. Progress on the development of validated programs should be reviewed and reported on an annual basis.

MOE Response

Agree with MAC's recommendation and will carry out the research and development program in co-operation with Environment Canada. Evaluation of chronic testing is already underway in the Ministry's laboratories with more sensitive species, such as water fleas and with more than one life stage of test fish.

Appropriate chronic toxicity testing would be useful to detect and quantify subtle long-term problems caused by effluent discharges. However, cost-effective protocols may take a long time to be developed and validated. Until practical protocols and interpretation techniques are developed, chronic toxicity testing on site-specific basis would best be used for the purpose of water quality impact evaluations.

B.6 Spills

MAC's Recommendation

That Ministry procedures under the MISA program be developed for the internal transfer and assessment of spill information currently being obtained by the MOE under existing legislation.

MOE Response

Agree with MAC's recommendation. The Ministry will ensure that the database for the Petroleum Refineries will be kept up-to-date with reports provided by the Spill Action Centre. If this existing mechanism proves inadequate, the Ministry will review the need and the mechanisms for a more explicit reporting of spills, including all relevant information, in order to enable the assessment of contaminant loadings (and their environmental effects) from spills.

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October 1, 1987

M E M O R A N D U M

TO: Doug J. Hallett
Chairman
MISA Advisory Committee

FROM: Nars Borodczak
Assistant Director - MISA Office
Water Resources Branch

RE: PUBLIC COMMENTS ON THE DRAFT EFFLUENT MONITORING REGULATION FOR THE PRETROLEUM REFINING SECTOR

Attached please find a copy of all of the comments to the Draft Petroleum Monitoring Regulation received to-date. Staff at the Water Resources Branch are currently reviewing these comments, and distributing them to the appropriate MOE staff members for response. I would appreciate it if you would have members of the MISA Advisory Committee review these submissions in parallel with the Ministry's initiatives. This will allow us to take the MAC comments into consideration during the re-draft of the regulation, thus shortening the time required to obtain the necessary approvals for the final regulation.

Please provide comments to me by October 19, 1987.

Nars Borodczak

EAS:jd
Enclosures

Ministry of the Environment
Ministère de l'Environnement
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ITEM B 2.2.2

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November 30, 1987

The Honourable Jim Bradley
Minister of the Environment
135 St. Clair Avenue West, Toronto

Dear Mr. Minister:

The MISA Advisory Committee (MAC) has read with interest the "Responses to the Draft Effluent Monitoring Regulation for the Petroleum Refinery Sector" which was referred for comment by Nars Borodczak, Assistant Director of the MISA Office, Water Resources Branch.

This referral provides the Committee with an opportunity to not only review public comments on the draft regulation, but to reconsider all previous MAC involvement with this regulation, including the Committee's report to you of June 17 last. It also permits us to include a perspective provided by recent experiences with the MISA Joint Technical Committees and the development of Effluent Monitoring Regulations in general. This entire review leads us to report to you under our term of reference for providing advice on draft regulations, as follows:

• PROCESS SIMPLIFICATION

The MISA Advisory Committee recommends that the Monitoring Regulation for the Petroleum Refinery Sector serve as a model for the development of a generic, monitoring regulation for all sectors, incorporating a standardized core, but with sector and effluent-specific requirements for daily and weekly monitoring. This would simplify the process considerably by ensuring 'fairness' and an understanding across all sectors of the MISA program. The Committee strongly recommends that the Ministry consider this simplified approach in the interest of streamlining and accelerating the process.

• PRE-REGULATION MONITORING

A fundamental principle for the monitoring phase, to meet the MISA goals, is the development of useful, accurate information for the determination of loadings of toxic chemicals. The MISA Advisory Committee feels that the voluntary pre-regulation monitoring programs should be employed only to establish parameters for daily and weekly monitoring routines. These programs should not be considered useful for the development of rigorous information which is necessary in the subsequent regulatory program. The data being generated for 'representative plants' cannot justifiably form the basis for the delisting of substances from subsequent sector-wide regulatory schedules. Therefore any monitoring outside a regulation, for the

purposes of delisting, is not useful and contrary to the MISA principles. Reducing the scope of pre-regulation monitoring would ensure the adherance, under regulation, to strict scientific principles and explanations for the development of sector and effluent-specific monitoring lists.

• MONITORING REQUIREMENTS

Despite the development of the daily and weekly analytical requirements on a sector and plant specific basis, MAC recommends that the quarterly monitoring be expanded to the full set of EMPPL compounds for which analytical protocols are available (current count 137). This recommendation is advanced in the knowledge that the draft proposal for delisting of compounds within the petroleum sector regulation has set a precedent which is proving to be a primary cause of prolonged discussion and delay in the development of regulations for other sectors, and a cause of public concern. By expanding the quarterly monitoring program, the twice-yearly characterization would become redundant. As a result, the regulation can be simplified by deleting Schedule 7 and reclassifying Schedule 2 as the quarterly monitoring list. The Ministry characterization would be directed to the search for additional substances as well as the audit of the quarterly monitoring.

The objective of the monitoring programs should be to obtain the maximum quantity of useful information with due consideration to the costs to industry. The MAC believes that more effort should be devoted to ensuring that i) the monitoring data which is required will be used for the purposes of the MISA program in a well designed management information system, and ii) that decisions about the inclusion or exclusion of analyses in the regulations be done with an awareness of economics. The MAC suspects that in many cases, excluding analyses produces marginal savings, and that in other cases demands for frequent analysis may incur costs which are not justified by the need for data.

• EMPPL

The MAC commends the Ministry in developing the EMPPL in a short period of time, and appreciates the critical manner in which the EMPPL has been presented. It is evident that the EMPPL requires further development, and that an important aspect of the MISA process and listing/delisting is the continuing refinement of the EMPPL. The MAC encourages the Ministry to consider this a priority, and recommends the immediate deployment of resources into the Hazardous Contaminants and Standards Branch to ensure this process.

• CHEMICALS CURRENTLY NOT ON THE EMPPL

The MAC recognizes that effluents may contain chemicals which are not presently on the Effluent Monitoring Priority Pollutants List (EMPPL). That list tends to exclude chemicals which are used only in a few specific locations or for which toxicity assessments could not be carried out in the limited time available. MAC recommends that there be an adequate

assessment of the identities and quantities of chemicals which are used in the plant, which may be formed in the processes, and which may be present in the effluents (such as reagents, biocides, additives, and solvents).

At an early stage in the monitoring phase, companies should be required to (i) report on the identities and quantities of such chemicals, and (ii) where appropriate, monitor for these chemicals in the effluents. The Ministry should consider these chemicals for inclusion on the EMPPL. (As background, the MAC notes the relationship between this issue, Regulation 309, Hazardous Waste Listing process, WHMIS, and other lists of hazardous materials.)

• LISTING/DELISTING

Throughout the MAC's participation in the MISA process, the most significant common problem observed is the absence of a listing/delisting mechanism. The MAC accepted the Ministry's proposal in May 1987 to develop the mechanism on a sector-by-sector basis in the immediate future, and recognizes that the project is now getting underway for the Petroleum Sector. MAC cannot overemphasize that a listing/delisting process is a key element in the development of all regulations, and immediate priority should be placed on the task. Moreover, compliance with MISA regulations cannot be ad hoc and the tracking and documentation of all chemical compounds monitored for each sector and plant, from pre-regulation monitoring through to the limits regulations is essential for the credibility and enforcement of the program.

• FLOW MEASUREMENT

In review of the flow measurement question, the Committee judges that a 20% accuracy for an entire range of flows is adequate. The need for more accurate flow measurement is not justified on the basis of loadings calculations, especially when taking into account the analytical variabilities inherent in determining the concentration of individual chemicals in effluent streams.

• DAPHNIA PROTOCOL

In light of the commercial availability of the Daphnia test, MAC recommends the immediate incorporation of the requirement into the first monitoring regulation.

We trust that the foregoing observations will assist in the development and understanding of the MISA process and we look forward to your response.

All of which is respectfully submitted:

J.W. MacLaren for the MISA Advisory Committee

RECEIVED MAY 3 0 1988

Ontario

Office of the Minister

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12M0128

May 26, 1988

Mr. J.W. MacLaren
Chairman
MISA Advisory Committee
135 St. Clair Avenue West
Toronto, Ontario
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Dear Mr. MacLaren:

Thank you for your comments on the 'Responses to the Draft Effluent Monitoring Regulation for the Petroleum Refinery Section' dated November 30, 1987.

Process Simplification:

I note that the MISA Advisory Committee (MAC) proposes a generic, standardized regulation as a basis for all subsequent regulations.

The MISA Office staff agree with the concept of a generic approach. A generic (general) regulation will be released at the same time as the Petroleum Sector Regulation. The Ministry is also utilizing this general draft in preparing the Organic Chemical Sector draft monitoring regulation. This general regulation will contain parts which will be common to all future monitoring regulations and will cover topics such as sampling and analytical requirements, toxicity testing, flow measurement, and reporting requirements.

.../2

Frequency of monitoring and parameter lists, and application (company names) will be specific for each of the sector regulations. Simply put, the generic regulation will outline the "how to" and the sector specific regulation the "what".

This should reduce the number of issues to be negotiated with each sector at the Joint Technical Committee and hence, speed up the regulation development process.

Pre-regulation Monitoring:

MAC proposes to change the pre-regulation monitoring scope; to use this data to establish parameters for daily and weekly monitoring routines; and suggests that data collected from representative plants not be used to delist substances from sector-wide schedules.

The pre-regulation monitoring period is a necessary step to developing an efficient and practical regulation. This approach was agreed to by the Ministry and several industrial associations at the beginning of the MISA process, and is reflected in the White Paper.

The pre-regulation monitoring program is negotiated with each sector and is one of many pieces of information used to develop the monitoring list. Other information used to develop the industrial parameter list comes from:

- submission of general information on the site and on the use and release of chemicals;
- pre-regulation characterization;
- site visits to review plant operations and operating data;
- MOE opens scans;
- review of historical monitoring data from the site such as from the Upper Great Lakes Connecting Channel Study, MISA pilot site studies, Niagara River Toxics Study:
- review of generic process data from US-EPA and the Federal Government.

.../3

The list of parameters to be sampled, and the daily, weekly, monthly and quarterly lists are all developed after a comprehensive review of the above information.

For the most part, data from representative plants has not been used to delist sector-wide requirements, but to establish industry's specific monitoring lists. However, in the mining sector and for small metal casting plants, this approach is used on a sub-sector basis only, for example, where sampling of a representation gold mine and milling operations is being performed or where the casting plants generate limited quantities of industrial wastes. To require smaller operations to carry out pre-regulation monitoring programs for all facilities may be unduly costly and, therefore, an attempt has been made to sample representative plants. This is one of the pieces of information that will be used to establish the monitoring list of parameters and frequency. A greater emphasis will be placed on data derived from all of the other sources mentioned earlier in this letter.

Monitoring Requirements:

MAC proposes to use the full Effluent Monitoring Priority Pollutant List (EMPPL) for the quarterly sampling, i.e. 12 times per year.

The purpose of the monitoring program established under MISA is to establish a database that would:

- provide statistically valid information based on known or suspected contaminants in order to develop meaningful BAT(EA) limits.

- indicate the presence or absence of certain compounds in the effluent streams;

In order to provide data to establish BAT(EA) limits, statistically valid information has to be obtained to develop appropriate monthly loadings. In the U.S. data validity was a continuous and strong argument presented by industry in their challenge of some of the U.S. limits regulations. Since the weekly analysis deal with contaminants that are known to be present in waste water streams and since these same contaminants may be candidates for control under the BAT(EA) compliance regulations, it is important that the database be sound and be capable of withstanding scientific challenges in the future. At the current time, the Ministry believes the database will be sound.

.../4

The Ministry is currently conducting a statistical study of the MISA sampling program. The results of this study, and the MAC statistical study will be used to assess the validity of the data. If these studies reveal that changes in sampling program need to be made, these changes will be incorporated.

The presence or absence of compounds (contaminants) is assessed opposite the EMPPL list. This is done by reviewing data from the pre-regulation monitoring program, from the Ministry's own audit program, from the industries periodic scan, and from the historical data and plant visits already mentioned.

Industries will be required to characterize their effluents opposite the sector EMPPL list at least two times in the sector specific monitoring regulation. A minimum of two additional data points will be obtained as a result of the pre-regulation monitoring programme and the Ministry will also carry out audit characterization during the life of the monitoring regulation.

This kind of evaluation may be sufficient to indicate the presence or absence of chemicals and, therefore, it may be unnecessary to require each discharger to monitor for EMPPL on a quarterly basis, i.e. 12 times per year, as a general matter of course. Monitoring for EMPPL on a quarterly basis may be necessary for some sectors for which little information on the contaminants present in their discharge is available. The Ministry welcomes MAC's comments on the frequency of characterization required for each sector.

Your recommendation to devote more resources towards contaminant identification is well taken. However, since MISA will be a continuing process, it may be more appropriate to devote the Ministry's effort at this time to ensuring a valid data base on known substances of concern to facilitate development of the compliance regulation, rather than attempting to identify further any chemicals that might have been missed as a result of the present intensive review process.

It may be preferable for MOE staff to develop a frequency for the monitoring of the EMPPL list on a sector by sector basis especially since there is a significant difference in the industries from sector to sector and within the sector as well. By copy of this letter, I am requesting the MISA Office to address MAC's concern in this particular area and to negotiate with industry at the JTC's a sufficient frequency of monitoring and the list of parameters.

.../5

Effluent Monitoring Priority Pollutants List (EMPPL)

MAC recommends the Ministry consider further development of EMPPL on a high priority basis.

MOE agrees with this approach and has proposed to allocate resources to speed up this process. The Priority Substances Advisory Committee (PSAC) has been set up to update the priority pollutant list, and is already meeting to carry out this function. I will keep you informed of their progress through the MISA Office.

Chemicals Currently not on EMPPL:

MAC recommends that there be an adequate assessment of the identities and quantities of chemicals which are used in the plant, which may be formed in the processes, and which may be present in the effluents. MAC also recommends that companies be required to report on identities and quantities of chemicals used.

MOE will require industries in the sector specific monitoring regulation to monitor for contaminants not on EMPPL but identified in the effluents providing proper analytical protocols are available.

MOE agrees that chemicals for which effluent data are lacking due to analytical limitation, but which are of potential concern as a result of environmental occurrence, or due to their toxicology and environmental fate, should be assessed for manufacture and use patterns. Such information could be obtained through collaborative efforts with industry or by using formal mechanisms available through federal and provincial legislation.

MOE is considering adding an additional reporting requirement for each of the industries. This would require the reporting of raw materials, by-products, products and waste materials at a site. This area may present difficulties in defining the scope of the requirement, ensuring confidentiality, and possible overlaps with the new Canadian Environmental Protection Act.

.../6

Listing/Delisting:

In your letter, MAC notes that "the most significant common problem observed is the absence of a listing/delisting mechanism".

The MISA Office has set up a sub-committee under the Petroleum Sector Joint Technical Committee to develop a "listing/delisting" mechanism for that sector. The sub-committee will be meeting as soon as possible. This "listing/delisting" mechanism for the petroleum sector will act as a basis for discussion with other sectors. I will keep you informed of their progress through the MISA Office.

Flow Measurement:

MAC proposes that an accuracy of 20% for an entire range of flows be accepted, for flow measurement.

It is felt that the 20% accuracy over the entire range will be misinterpreted to mean 20% minimum. A technical capability of flow measurement of 7% has been accepted by industry (2 sectors) in negotiations carried out to-date. Since subsequent development of effluent limits will be based partly on loadings (the multiple of flow and concentration), MISA staff will continue to negotiate the installation of the best flow measuring devices possible.

Daphnia Protocol:

MAC recommends this be included immediately. The protocol has been included in the General regulation.

Thank you for your insightful comments on the MISA Program. I look forward to your comments on the other regulations.

Yours sincerely,

Jim Bradley
Minister

Ontario

Office of the Minister

Ministry of the Environment

135 St. Clair Avenue West
Toronto, Ontario
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416/323-4359

March 18, 1988

03M1505

Mr. J.W. MacLaren
Chairman
MISA Advisory Committee
112 St. Clair Avenue West
Suite 502
Toronto, Ontario
M4V 1N3

Dear Mr. MacLaren:

Please find enclosed the petroleum refining monitoring regulations and supporting documentation to include:

(1) Effluent Monitoring - General Regulation

(2) Effluent Monitoring - Petroleum Refining Sector Regulation

(3) MISA Effluent Monitoring Regulations and Their Application to the Petroleum Refining Sector

(4) Effluent Monitoring Priority Pollutants List - 1987

(5) The Public Review of the Draft Effluent Monitoring Regulation for the Petroleum Refining Sector and the Ministry of the Environment's Response to It.

You have previously been involved in the development and review of the regulations and accepted the Draft Regulation prior to public release. It is expected that there should be no outstanding major concerns to be considered since the principles have not changed, although the previous draft regulation is now presented as two regulations - general and petroleum refining sector specific.

As you are aware, the OPA is still concerned about the Daphnia magna biomonitoring requirement, the practicality of a detailed regulation, and the use of a net loadings concept. The OPA has also reserved the right to provide comments on the final version of the documents. Their comments are included for your review.

... 2

The MISA Industrial staff will be available, if requested, to answer any questions which may arise prior to or during the course of the meeting on March 25, 1988.

Your early response would be most appreciated in order that the regulations might be promulgated as quickly as possible.

Yours sincerely,

Jim Bradley
Minister

Enclosures: OPA Response
Regulation and Documentation

1988 04 12

The Honourable Jim Bradley
Minister of the Environment
135 St. Clair Avenue West
Suite 1500
Toronto, Ontario M4V 1P5

Dear Mr. Bradley:

Re: Draft 16 - The Effluent Monitoring Regulation for the Petroleum Refinery Sector

On March 18, 1988, the MISA Advisory Committee (MAC) received your letter and the aforementioned draft regulation with supporting documentation, including the comments of the Ontario Petroleum Association.

Your letter noted that "it is expected that there should be no outstanding major concerns to be considered since the principles have not changed, although the previous draft regulation is now presented as two regulations - generic and petroleum refining specific." Your letter went on to indicate that "an early response would be most appreciated in order that the regulations might be promulgated as quickly as possible."

As your Advisory Committee, we responded as rapidly as possible by convening Meeting 28 of the MAC on Friday, March 25, 1988 for the specific purpose of discussing and commenting on Draft 16 of the Effluent Monitoring Regulations - General and Petroleum Refining Sector. Mr. Bruce Orr, chairman of the OPA/MISA Steering Committee was included as a full member of the Advisory Committee and is in agreement with this report. Mr. Orr was supported at our meeting by Mr.Howard Carter, Chairman of the OPA/JTC, and consultant to the OPA, Mr. Bob Fern.

At the request of Dr. David Balsillie, the representatives to the MAC from the other MISA sectors were invited to be present as observers and to provide comment. The following persons responded to the invitation and attended as observers:

Ian Bird, Ontario Forest Industries Association, Pulp and Paper Sector
Bill Neff, CCPA, Organic and Inorganic Chemical Manufacturing Sectors
Mike Northfield, Ontario Hydro, Electrical Power Generation Sector
Al Schuldt, Canadian Steel Environmental Assoc., Iron and Steel Sector
Brian Young, Abitibi Price, Pulp and Paper Sector
Maxine Wiber, Ontario Mining Association, Mining Sector

The Ministry was represented by Jim Bishop, Nars Borodczak, Cecil Inniss and Betty Smith.

Six of eight permanent members of the MISA Advisory Committee were present (M. Campbell, H. Clare, I. Heathcote, P. Hebert, J. MacLaren, K. Millyard), as well as our staff Coordinator, Doug Vallery and Technical Assistant, Linda Eastcott.

In introducing our response to Draft 16, we should make it clear that as the MISA Advisory Committee, we discussed the Petroleum Monitoring Regulation in several drafts during the first half of 1987, and reported formally to you on June 4, 1987, with Ray Shaver as the MAC member respresenting the Petroleum Sector. Our report had the concurrence of all nine committee members and was published as part of the draft regulation package, issued in July 1987 for public review. Each of MAC's recomendations was accompanied by a response from the Ministry.

In early October, 1987, the Ministry referred the public responses to the Draft Petroleum Refineries Regulation to the MISA Advisory Committee for comment. Rather than comment on the details of the responses, MAC chose to provide a generic response on changes it considered appropriate to the Effluent Monitoring Regulations in general, considering the experience gained by its members as observers to the Joint Technical Committees, and having reviewed the conceptual draft of the Effluent Monitoring Regulation for the Organic Chemical Manufacturers' Sector.

This response was provided to you in our letter of November 30, 1987, to which we have not yet received a formal response, despite the fact that a tentative agreement on the contentious issues had been reached with Ministry staff on January 25, 1988.

MISA Advisory Committee staff and members have reviewed the recently provided document package, including the comments of the Ontario Petroleum Association of March 18. The Committee recognizes that a number of changes and additions have been made to both the generic and sector-specific regulations. Major concerns that were raised at the March 25 meeting relate to the MAC report of June 4, 1987 and our letter of November 30, 1987 and the impression that issues raised and recommendations made in these documents have not been adequately responded to in this most recent draft regulation. Our major comments are as follows.

1. ANALYTICAL METHOD DETECTION LIMITS

In the report of June 4, 1987, MAC recommended that data for all persistent toxic compounds be reported down to the 1 ppb level or the MDL achievable for each specific compound. A resolution was reached among all parties that these limits would be determined and published in the final regulation.

However, the original detection limit of 10 ppb continues to appear in the General Regulation Schedule 3B for the analytical groups in question and is referenced as the "Method Detection Limit for Standards in Reagent Water" (column 6 Heading). As well, the definition for Method Detection Limit references a document that has not been reviewed and published.

The MISA Advisory Committee strongly recommends that the column heading definition be clarified and that the original agreement on MDL's be reflected in the regulations and supporting documents prior to promulgation. In order for the regulation to proceed in a timely fashion,

the MISA Advisory Committee recommends that interim Method Detection Limits based on the preliminary data available from the inter-laboratory study be published in the schedule at this time. If at the completion of the study changes are necessary, the regulation can be amended.

MAC requests the opportunity to review all documents related to this issue prior to promulgation and/or publication.

2. BIOMONITORING

The MISA Advisory Committee is pleased to see the Daphnia magna Testing requirement included in the draft regulation.

Bruce Orr, Petroleum Refinery Sector (OPA) representative to MAC, presented an alternative proposal to the Daphnia magna testing requirement set out in draft 16 of the regulation (Attachment A). The proposal was based on the conviction that the Daphnia regulatory requirement "forces a rigidity into the program (biomonitoring) which will render it ineffective and wasteful." The OPA proposal was offered on the condition that the regulatory requirement be removed.

The majority of MAC members do not share the OPA's objection to the Daphnia requirement. On the contrary, the majority of MAC members feel that by imposing the requirement in regulation, a necessary foundation is provided on which to build a strong biomonitoring program.

The MISA Advisory Committee therefore recommends that the requirement for the Daphnia magna acute lethality test remain in the regulations as written. The OPA representative to MAC, Bruce Orr agreed with this recommendation.

The OPA presentation also makes some practical and sensible statements regarding implementation of the regulation and the coordination of all participating interests.

3. FREQUENCY OF CHARACTERIZATION

In MAC's letter to you of November 30, 1987, the Committee recommended increased characterization requirements for effluent monitoring. Specifically, MAC recommended increasing the monthly monitoring to the full analyseable EMPPL and removing the annual characterization requirements. In subsequent discussions with Ministry staff on January 25, 1988, a tentative agreement was reached on establishing a minimum requirement for characterization to include credit for pre-regulation and regulatory monitoring, stipulating a minimum of 12 characterizations, with a minimum of 6 within the regulation over the 12 month monitoring period. The proposed generic regulation does not include any reference to a minimum number of characterizations, but defers to the sector-specific regulation. The Explanatory Notes (page 20) state that the Ministry "suggests" a minimum of six characterizations as the monitoring frequency for a reasonable probability of detection. The Note is not specific as to whether

this means characterizations performed prior to, or within the regulation. MAC remains concerned that characterizations done historically, or in pre-regulation monitoring, may not provide satisfactorily comparable data to the characterizations within the regulation. Inadequate characterization data will not provide the necessary basis for delisting review at the end of one year of monitoring.

The MISA Advisory Committee recognizes that adequate characterization may have been performed for the Petroleum Refining Sector through historical and pre-regulation activity. While the MAC also recognizes that the "legitimate variation clause" (Section 3) in the generic regulation allows for varying both the frequency and size of the characterization list for subsequent sectors, MAC recommends the enshrinement of six characterizations within the generic regulation. MAC will continue to follow this question very carefully with each sectoral regulation and will likely make recommendations for more extensive characterization for some sectors than is currently anticipated.

4. CHEMICALS CURRENTLY NOT ON EMPPL

MAC recommends flexibility in the development of routine monitoring and characterization schedules, and the use of EMPPL as a guide to the development of sector and plant-specific lists. Where analytical protocols are available for plant or sector-specific chemicals of concern, which have not been assessed through the EMPPL process, MAC recommends that due consideration be given to including such chemicals on monitoring lists.

Specifically for the Petroleum Refining Sector, chemicals identified in MAC's June 4, 1987 report (alkylated PAHs including methylated groups, mercaptans, thiophenes, ketones, and alkylated phenolics), MAC is concerned that the agreed-on process for identification and review has not been put in place, and requests clarification on the status of the agreement.

We trust that the foregoing will assist you in improving the final regulation package. Because of the required short response time, MAC has not reviewed the supporting documents in detail and declines further comment on them. This does not necessarily indicate agreement with the content.

The foregoing has the concurrence of all members of the MISA Advisory Committee, including the Petroleum Refining Sector representative. All MAC members would appreciate the opportunity to review the final draft package with all supporting documentation prior to promulgation.

Yours very truly,

Jim MacLaren, Chairman
for the MISA Advisory Committee

c.c. MAC Distribution List

APPENDIX B.3

MISA ADVISORY COMMITTEE 1987-1988

REFERRALS regarding the

ORGANIC CHEMICAL MANUFACTURERS' SECTOR

Ministry of the Environment
Ministère de l'Environnement
Ontario

ITEM B 3.1

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MEMORANDUM 87 09 17

TO: Nars Borodczak
Chairman, Joint Technical Committee
Organic Chemical Manufacturers' Sector

FROM: Doug Hallett, Chairman
MISA Advisory Committee

RE: MAC RESPONSE TO THE CONCEPTUAL DRAFT EFFLUENT MONITORING REGULATION FOR THE ORGANIC CHEMICALS MANUFACTURING SECTOR

Thank you for the opportunity to review the first conceptual draft of the OCM sector monitoring regulation. The draft regulation was tabled with the MISA Advisory Committee (MAC) at its meeting on July 24, 1987, and was further discussed in detail at the MAC meetings of August 6, 1987 and September 4., 1987. The minutes of these meetings document the MAC response to the draft. MAC's preliminary response was presented to your Joint Technical Committee on August 18, 1987, by Bill Neff and Doug Vallery.

This memo serves as a re-statement of MAC's position on the draft regulation and the committee welcomes further discussion of these points:

MAC members have expressed concern over the apparent delisting from the pre-monitoring program to the monitoring regulation. MAC recommends that all listing or delisting actions taken during this period be fully documented.

One member stated: "We have to be clear on what is out and why?" This same member went on to say that the schedule development and modification process is basically sound, and casts a broad net (through industry data; federal data; provincial data; U.S. discharger data; common sense- nature of chemical process, use and release) which should preclude the omission of a 'bad actor'. However, full documentation for all substances to be listed or delisted should be mandatory.

MAC is very interested in reviewing the monitoring schedules which are under development for each plant. MAC understands that the schedules will be available at the time of the tabling of the first legal draft regulation. MAC recommends that a rationale for the development of each individual site-specific schedule should be included, and should explain the basis for the listing and delisting of all compounds.

MAC recommends that a perceived difference in the construction of the monthly monitoring lists be rectified and that the OCM monitoring regulation be consistent with the Petroleum Refinery regulation in terms of methods for parameter selection and the assignment of monitoring frequencies.

In order to provide a sound basis for assessment, MAC recommends that the pre-regulation monitoring data, and regulation characterizations be reported, where possible, down to the laboratory method detection limit (MDL) calculated to a 95% confidence limit. Also, to ensure a sound analytical base, MAC encourages the Ministry to advance its round-robin laboratory testing program.

The OCM Sector representative advanced the recommendation that the development and imposition of monitoring schedules should take place outside of the regulation. This would allow required flexibility for companies to optimize processes and alter monitoring requirements in a short period of time, precluding the time-consuming need to alter a regulation for each schedule alteration. While in favour of encouraging BMP, MAC took the issue under advisement, and recommends that the Ministry investigate and report on whether there are satisfactory alternative methods for scheduling. It is MAC's opinion that a satisfactory method would include legal enforceability, and public availability of current schedules with full explanation for all listing and delisting actions taken.

Designation and reporting of 'confidential' information is a contentious issue. The OCM Sector Representative stated that the industry has agreed to the public reporting of aggregate data (effluent to the environment). However, while not arguing with the need to monitor process streams, the industry would not accept the public reporting or availability of process stream data. The industry would accept the corporate, on-site maintenance of process stream data, for inspection and verification by Ministry officials. MAC endorsed Don MacKay's proposal on the question of "Confidentiality and the OCM Sector" (letter of August 17), and recommends that the Joint Technical Committee give careful consideration to the proposal in developing the regulation section on reporting.

MAC recommends the extension of toxicity testing to include Daphnia.

MAC agrees to a pH adjustment prior to toxicity testing, on the condition that when pH adjustment is undertaken, the effluent will be recorded as toxic.

The Regulation Writing team should take into account a number of editorial comments made in Don MacKay's response, and the following:

Page

3. -reword definitions of 'spiked method blank sample' vs 'blank sample'.
5. -reword section 3.(2)(b) - applies to a particular discharger only
7. - reword section 5.4 -the wording and intent are not clear
8. -item 11.(a) - what is the basis for classification and frequency of monitoring for 'combined' effluent streams?
16. -item 15(1) - text missing.

Bill Neff, the MAC OCM Sector representative has requested that technical staff of the Ministry be present at MAC Meetings where OCM Sector regulations are being discussed, in order that all sides of each issue could be discussed immediately, precluding the absense of required input or the representation of positions by third parties and intermediaries. In response, MAC has no objection to the invitation of one or several key staff members to MAC meetings, in order to state and discuss the Ministry's position, with prior arrangements being made through Doug Vallery and yourself.

The MISA Advisory Committee looks forward to reviewing the subsequent legal draft regulation.

c.c. MAC Distribution List

APPENDIX B.4

MISA ADVISORY COMMITTEE 1987-1988

CORRESPONDENCE regarding

MISA ADMINISTRATIVE AND PROGRAM MATTERS

Ontario
Ministry of the Environment
Ministère de l'Environnement

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November 30, 1987

Dr. David Balsillie
Assistant Deputy Minister, Environmental Services Division
Ontario Ministry of the Environment
135 St. Clair Avenue West, Toronto

Dear Dr. Balsillie:

Although a year has elapsed since the inaugural meeting of the MISA Advisory Committee, the MAC Draft Memorandum of Understanding does not require that the committee formally report on its operations until after March 31, 1988.

We do feel, however, on the occasion of our first anniversary of operations representing twenty-one committee meetings, that we should confirm certain advice, previously provided to you and Jim Bishop.

- We are very appreciative and satisfied with the cooperation that we have received from the Ministry and your office. The provision of a highly qualified Scientific and Technical Coordinator in the person of Doug Vallery and his assistant Ms. Linda Eastcott is eminently satisfactory as are the offices provided the Committee at 112 St. Clair Avenue West.
- The provision of documentation and Ministry policy relating to the MISA regulations development has been generally satisfactory, and has proven most helpful. Our recently arranged tour through Ministry laboratory facilities was further evidence of your staff's desire to assist us in improving our technical understanding.
- We are aware of the considerable effort and dedication of the Ministry's staff in attempting to meet the ambitious schedule and milestones of the MISA program. We are also aware that our committee must respond as an involved party to this demanding schedule. We do not feel capable of such response unless we can be supported by a rigorous but practicable project management system. We understand that your office is moving to institute such a system, and as one of the beneficiaries we should like to be advised of its process and detail so that we can husband our own resources to meet its requirements.
- We were encouraged to read the first issue of the MISA Update in view of the many questions that interested members of the public have directed to MAC. Can we be advised as to the commitment of the Ministry to issue regular Updates that would give the general public as well as the scientific community a practical review of the program's status? For instance, the MAC believes that the municipal sector represents one of the most significant MISA groups in terms of program complexity,

regulatory workload and potential cost of remediation. However, we are not aware of how the numerous elements of the municipal sector program will be drawn into a consolidated effort and communicated to all participants as well as the general public..

- MAC recommends that the draft Memorandum of Understanding be finalized, with consideration given to the amendments suggested by MAC in the right hand column headed 'MAC Response'. Also, as a supplement to Section 3 (7) of the MOU, MAC requests that a final version of the proposed "MAC Operating Procedures" (attachment 2) be referenced directly. The draft "Operating Procedures" document has been prepared by MAC as a guideline for committee activity.
- MAC also solicits from your offices, a reassessment of the committee's status as a provincial "agency, board, or commission". In light of the level of expertise of committee members, and the relative importance of providing expert advice to a Cabinet Minister on the development of a legislative program, it is felt that committee member per diem reimbursement should be reviewed and assessed at or near the maximum rate available.
- Finally MAC earnestly requests clarification of the official reporting relationship of the Scientific and Technical Coordinator. Unofficially, on paper, the Coordinator reports directly to the Assistant Director, MISA Office. MAC recommends that for program purposes and to avoid any potential conflict, the Coordinator should be directly responsible to the Committee Chairman, and should be accountable to an officer of the Ministry, outside of the MISA Office. This arrangement would preserve the arms-length nature of the Committee's operations. MAC recommends therefore, that the Coordinator be accountable to the Assistant Deputy Minister, Environmental Services Division, to whom the Committee reports on program matters.

We look forward to your response to these points. We shall continue a policy of maintaining an informal dialogue with your office on our role in the MISA program, confirming in writing the discussion of those subjects in which we believe all MISA participants would benefit.

Yours very truly,

J.W. MacLaren, Chairman for the
MISA Advisory Committee

Attachments

c.c. Minister's Office
Jim Bishop

Ministry of the Environment
Ministère de l'Environnement
Ontario

ITEM B 4.2

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323-4273

January 11, 1988

Mr. J.W. MacLaren
Chairman
MISA Advisory Committee
135 St. Clair Ave. West
Toronto, Ontario
M4V 1E6

Dear Jim:

Thank you for your letter of November 30, 1987. I appreciate hearing from you upon the occasion of MAC's first anniversary. I also appreciate having the opportunity to discuss with you the various issues related to the MISA Program on December 10th.

I am pleased with the fact that relations between MAC and the Ministry are improving and I hope that this trend will continue in the new year. We will certainly continue to strive to provide your Committee with adequate assistance and the required documentation.

There are a number of points in your letter on which I like to comment, and I will respond in the order as you raised them:

(1) Project Management

The MISA Office has long recognized this need and has dedicated three of the new staff positions to this role. These positions have just been staffed and we can expect implementation of a more rigorous project planning and management system over the next few months. I have instructed my staff to keep the MAC fully advised of the progress and involve your Committee in the development and operation of the project and management system, where interactions are required. Needless to say, schedules for various regulation development will also be provided.

(2) MISA Update

I am encouraged that MAC is pleased with the MISA Newsletter as a practical means of informing the public and the scientific community on MISA Program status. We are committed to produce updates on a regular basis. Unfortunately, policy decisions on program direction have delayed the preparation of the next issue. At this stage, we expect that the publication of the second issue of the Newsletter will be in late January 1988.

Following the receipt of your letter, I believe that my staff has made a presentation to your Committee in December outlining the various program elements in the Municipal Sector regulation development. In particular, the Sewer Use Control Program concept was discussed in detail. At appropriate time, these Municipal Program elements will also be described in the Newsletter for public review.

(3) Memorandum of Understanding

The Ministry is in the process of dealing with several outstanding MOU's particularly those having legislative authority such as the Environmental Assessment Advisory Committee and the Environmental Appeal Board. Your MOU will be dealt with in due course.

(4) Operating Procedures

Your letter of November 30th, also included a draft copy of the "MAC operating procedures" for review and comment. Generally the procedures as outlined are agreed with, however, I would like to bring to your attention some of the changes discussed during our meeting of December 10th, along with some minor further amendments that became apparent upon further review. These comments are summarized as follows:

- Page 2, Bullet 2

It will be necessary to fill in the appointment dates for Mr. James MacLaren as Chairman of MAC and include Dr. I. Heathcote as a new member to the Committee.

- Page 2, Bullet 3

It is my understanding that when the municipal regulations are to be reviewed by MAC one member from the MEA and one member from AMO will be appointed to the Committee, rather than one municipal representative.

- Page 4, Item 16

The attendance of the MAC Chairman to Management Committee is by invitation of the Minister and the Deputy and therefore this cannot correctly become part of MAC's operating procedure. I suggest that the procedures on regulation review and ultimate presentation to Management Committee be discussed with staff of the MISA Office for further clarification.

It is the Minister's discretion to include various materials to be submitted to CCEP and to the public for review and comment, and therefore, it will remain his decision as to whether MAC's report will be included in both of these submissions.

- Page 3, Step 3

Although the white paper originally suggested a thirty-day public review period, forty-five days were provided for the review of the draft OPA Regulation. It would appear that this review will be extended to sixty days for the Organic Sector regulation because of its complexity. I would suggest, therefore, that the thirty-day public review period noted on Page 3 and referred in other parts of the report, be modified to sixty-days.

- Page 6, Bullet 2

It is suggested that this second point be changed to read, "MAC will, with the agreement of the Chairman and the ADM, Environmental Services Division, review and comment on other issues deemed by the Committee to be relevant to the MISA program regulations."

- Page 7, Section E3, Bullet 2

It may be appropriate to omit this comment since the Committee reports are not necessarily public documents and, therefore, do not require translation into French on a routine basis. The Committee reports should be handled in a similar manner as suggested for the Committee proceedings and official documents noted in the first bullet point.

- Page 8

It would appear that the first bullet point on Page 8 is redundant and, therefore, can be removed.

- Page 9, Item 4, Section F4

The Ministry cannot routinely provide "MISA - related Management Committee presentations" since these are confidential to the Management Committee. However, certain pertinent information can be provided to you on request following Ministry review.

- Page 10, Sub-Bullet of Bullet 4

The compensation for members should be altered to read $150 rather than $175.

(5) Compensation

Your letter also suggests that reimbursements to Committee members be reviewed and re-assessed. The reimbursement schedule for Committee members is as follows:

- Chairman - $250 per diem (maximum $300 per diem)

- Vice-Chairman - $200 per diem (maximum $225 per diem)

- Members - $150 per diem (maximum $175 per diem)

Under the present re-numeration scheme, the Chairman and the Vice-Chairman are receiving compensation equal to the highest paid counterparts in other MOE Boards or Commissions. The compensation to members has been upgraded from $125 to $150 per diem which is also consistent with the highest compensation provided to other Board or Commission members.

(6) Reporting of Scientific & Technical Coordinator

Your last paragraph requests clarification on the official reporting mechanism of the Scientific and Technical Coordinator. It is our proposal to have the Scientific and Technical Coordinator seconded from the Water Resources Branch and reporting directly to the Chairman of the MISA Advisory Committee. This should avoid any potential conflicts that the coordinator might have with respect to the performance of his duties.

In closing, I would like to thank you for the comments you provided and especially being given the opportunity to review the MISA Advisory Committee operating procedures. I trust that my comments in turn will assist you and your Committee in your operations.

Yours sincerely,

D. Balsillie
Assistant Deputy Minister
Environment Services Division

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